DuPont Polymer Specialties

Hylene TPE 9300C

thermoplastic elastomer

Hylene™ TPE 9300C, a thermoplastic elastomer based on p-phenylene diisocyanate with a polycaprolactone backbone, fills the need for a TPE in very demanding service. Parts made with Hylene™ 9300C can perform in a wide service temperature range: -29 to 135 C (-20 to 275 F).

In addition, Hylene™ TPE 9300C provides a combination of excellent flex fatigue resistance, cut and tear resistance, and outstanding dynamic properties - all at temperatures higher than conventional TPEs.

Uses

Hylene™ TPE 9300C uses include seals and gaskets, nailgun bumpers, jounce bumpers, springs, belts, rollers, wheels and other parts demanding high temperature stability under load, high resiliency, fatigue resistance, and low compression set.

Sales Specifications

Property	Limit	ASTM Method
Hardness, Shore A	90-96	D2240
Ultimate tensile, psi	6000 min.	D412
Modulus @100% elongation, psi	1600 min.	D412
Ultimate elongation, %	500 min.	D412
Compression set, 70 hr. @100C, %	35 max.	D395B

Bashore resilience, %	50 min.	D2632
Specific gravity	1.16-1.20	D792

Processing Guidelines

Hylene™ TPE 9300C is supplied as extruded pellets, with a processing temperature range of 227 to 249?C (440 to 480?F). Cycle times are typically 25-50% shorter than for standard TPEs because of the high crystallization rate. For full property development, the molded part must be annealed for 16 hours at 121?C (250?F) and aged at room temperature for approximately two weeks after annealing. For additional information, request the DuPont bulletin Hylene™ TPE Processing Guidelines and Handling Precautions.

Packages

Hylene™ TPE 9300C is supplied as extruded pellets in 250-lb (113.4 kg) and 40-lb (18.14 kg) net fiber drums. Samples of 1 lb are also available

Typical Physical Properties

Property	Value
Hardness, Shore A	94
Modulus at 100% Elongation, psi (MPa)	1900 (13.1)
Ultimate Tensile Strength, psi (MPa)	8500 (58.6)
Ultimate Elongation, %	600
Specific Gravity	1.19
Rebound Resilience, %	64
Service Temperature Range, ?C (?F)*	-29 to 135 (-20 to 275)
Compression Set, % (ASTM D395B)	
70 hr at 70?C (158?F)	16.7
70 hr at 100?C (212?F)	31.0
70 hr at 125?C (257?F)	60.0
Tear Strength-Die C, pli (kN/m) (ASTM D624-54)	860 (155)
Taber Abrasion,** mg lost/1000 cycles (ASTM D3389)	28
Water Absorption, %	~1
Thermal Coefficient of Expansion, cm/cm, 23-120?C (73-248?F)	29 x 10-5
Thermal Conductivity, W/mK	0.21

* Service temperature varies depending upon environment and dynamics of the
application.
** Wheel: 1000 g; CS-10F

Hazards
Hylene™ TPE 9300C is a stable thermoplastic elastomer, with no significant toxicity. See the DuPont MSDS for this material for further information.

Contact Us
Contact us to place an order, request a sample, or for additional on this or other grades of Hylene™ TPE.

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Guide to Polymer Abbreviations

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Since polymer molecules tend to have long names befitting their size, most polymers are referred to in coversation and in print by their abbreviations, whenever possible. It is much easier to refer to 'ABS' than to 'acrylonitrile-butadiene styrene. or to 'PCTFE' instead of 'polymonochlorotrifluoroethylene'.

Abbreviation	Polymer Name
- A -	
ABA	acrylonitrile-butadiene acrylate
ABS	acrylonitrile-butadiene styrene terpolymer
ACS	acrylonitrile-chlorinated polyethylene styrene terpolymer
AMA	acrylate maleic anhydride terpolymer
AMMA	acrylonitrile-methyl methacrylate
APO	amorphous polyolefin
AS	acrylonitrile styrene copolymer
ASA	acrylonitrile styrene acrylate
- B -	
BMC	bulk molding compound
BMI	bis maleimide
- C -	
CA	cellulose acetate
CAB	cellulose acetate butyrate
CAP	cellulose acetate proprionate
CN	cellulose nitrate (celluloid)
COC	cycloolefin copolymer

SVA	styrene vinyl acrylonitrile
- T -	
TEO	thermoplastic elastic olefin
TPE	thermoplastic elastomer
TPE-O, TPO	thermoplastic elastomer - olefinic
TPE-S	thermoplastic elastomer - styrenic
TMC	thick molding compound
TPU	thermoplastic urethane
TVO	thermoplastic vulcanites
- U -	
UF	urea formaldehyde
UHMWPE	ultrahigh molecular weight polyethylene
ULDPE	ultra low density polyethylene
UP,UPE	unsaturated polyester (thermoset)
- V -	
VA	vinyl acetate
VAE	vinyl acetate ethylene
VLDPE	very low density polyethylene
- X -	
XPS	expandable polystyrene

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